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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/687,445	10/13/2000	Charles Lee Asplin	ASPL-007	1343
7590	10/06/2004		EXAMINER	
Curtis V. Harr Registered Patent Attorney P. O. Box 2842 Fargo, ND 58108-2842			ADDIE, RAYMOND W	
			ART UNIT	PAPER NUMBER
			3671	

DATE MAILED: 10/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	<i>ST</i>
	09/687,445	ASPLIN, CHARLES LEE	
Examiner	Art Unit		
Raymond W. Addie	3671		

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 09 July 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 7 and 9-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 7 and 9-21 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ .

5) Notice of Informal Patent Application (PTO-152)

6) Other: ____ .

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 9-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flock # 1,943,914 in view of Lightle # 5,795,108.

Flock discloses an apparatus and method for raising sunken pavement, utilizing dirt, sand, etc. under pressure, as with compressed air, without the use of jacks or other lifting apparatus. Said apparatus comprising:

An elongate air and sand delivery line (9, 17).

An injector portion (13, 17) having a valve assembly (34), a nozzle portion (16), a threaded end portion (14), and a detachable pilot (13) which may be utilized in a variety of manners, or removed from the threaded end portion (14) in order to create a tight connection with a hole (11) formed in the pavement (6).

What Flock does not disclose is the specific structural features of the sand and air supply system. However, Lightle teaches a method and apparatus for placing granular materials, such as sand (14), to a sand gun (15, 21, 22) for distribution under compressed air pressure. Said apparatus comprising:

A hopper (19), having a sand outlet, a compressed air source (26), a mixing chamber (23), which has a smaller air source pipe (31/33), fitted inside of a larger diameter sand outlet (40), thereby creating a venturi effect for pressurizing the sand for movement through an elongated distribution hose (16) having a nozzle (55).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the method and apparatus for raising sunken pavement of Flock, with a pressurized sand source, as taught by Lightle, in order to provide a consistent, metered amount of pressurized sand to a remote point of distribution, as reasonably suggested by both Flock and Lightle. See Flock Col. 1, Ins. 1-40; col. 2, Ins. 62-col. 4, In. 109, Figs. 1, 2; Lightle Col. 1, Ins. 1-14, Col. 2, In. 63-col. 4, In. 9.

In regards to Claims 9-11 Flock discloses the use of compressed air and a valve assembly (34). Lightle discloses the use of a high-volume, compressed air source and plurality of valve assemblies (30, 32, 56) for controlling the flow of sand through the distribution systems.

In regards to Claims 12-21 Flock discloses a method of raising sunken pavement, as put forth with respect to claim 1, comprising the steps of:
Providing a supply of earth, dirt, etc. (12) for placement underneath a pavement.
Providing a supply of compressed air.

Delivering pressurized sand to a remote point of distribution using an elongate air and sand delivery line (9), having a nozzle (16).

Providing an injector portion (13, 14, 16, 17), optionally having a valve assembly (34), as well as a threaded end portion (14) that could be pounded into a drilled hole (11), in the pavement and/or soil beneath said pavement, so as to provide a tight connection between the injector portion and hole (11).

Drilling a hole (11) into a pavement to be raised.

Attaching a nozzle/injector portion (16) to said hole (11).

Operating said injector portion, in a series of bursts or blows, such that said subsoil is compacted and then said slab is lifted. See cols. 2, 5-6.

What Flock does not disclose is the steps necessary to provide a consistent supply of pressurized sand. However, Lightle teaches a method of moving and placing sand, under air pressure, as put forth with respect to Claim 1 above, comprising the steps of:

Providing a storage tank (19) with sand, said tank having an outlet.

Mixing said air and sand in a mixing chamber (21, 22) to pressurize said sand for delivery to a remote location, via distribution hose (16).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to provide the method of raising a sunken pavement, of Flock, with the steps of providing a pressurized sand delivery system, as taught by Lightle, in order to provide a consistent, metered amount of pressurized sand to a remote point of distribution. See Lightle Cols. 2-3.

In regards Claims 13-16, 18-21 Both Flock and Lightle disclose the steps of utilizing various valve assemblies (34, 30, 32, 56) to control movement and placement of the pressurized sand.

Flock further discloses the steps of drilling a plurality of holes (11) and filling each hole with pressurized sand until the pavement is leveled and then patching the hole (11) with cement or the like.

Response to Arguments

2. Applicant's arguments filed 7/09/04 have been fully considered but they are not persuasive.

Applicant argues against the rejection of claims 7, 9-21 by stating "No where does flock disclose the use of air pressure to lift the concrete and then the subsequent movement of a dried sand to fill the void as the concrete is lifted by the air pressure".

However, neither does the claim language of the instant application.

Specifically claims 7 and 12, the Independent claims, positively recite "a mixing chamber connected to said sand outlet and said compressed air source, said mixing chamber...create a venture effect...an elongate air and sand delivery line connected to said mixing chamber...an injector gun...for the delivery of a sand air mixture"; and "A method of lifting...a slab...comprising the steps of:

mixing said sand and said compressed air in a mixing chamber; delivering said sand and air mixture to an injector gun...Drilling a hole (in) said slab to be leveled...operating said injector gun in bursts so as to provide compressed air and sand; and lifting said slab by said bursts of compressed air...such that said sand can flow under said slab permanently filling under said slab", respectively.

Nowhere in the claims is it claimed or suggested that the sand subsequently moves to fill the void, subsequent to the compressed air raises the slab.

As cited by the very claim language reiterated above, it is definitive that the Applicant's invention mixes the air and sand in a chamber and then delivers the mixture to the void below the slab simultaneously, as opposed to subsequently, as argued.

Therefore, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., subsequent movement of the sand into the void below the slab) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Hence, the argument is not persuasive and the rejection is upheld.

Applicant then argues "Flock discloses the use of a fluidic material to actually do the raising...any air contained in the material or trapped as bubbles is actually counterproductive to Flock's use as Flock relies upon the force of the materials to raise

the sunken concrete rather than air pressure... It nowhere discusses the use of air or any other gas or pump".

However, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., subsequent movement of the sand into the void below the slab) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Further, as with the claimed invention the "force of the materials to raise the sunken concrete" is created by mixing the material with compressed air in a mixing chamber and then delivering the mixture to a hole in the slab to be raised, such that the compressed air 'forces' the sand into the void below the slab and the 'force' of the pressurized material raises the slab, as is claimed in the instant invention and as is disclosed in the prior art. Hence, the use of pressurized air is essential, not counterproductive as argued.

Still further, in response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

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Applicant is reminded that the rejections of Claims 7, 9-21 are under 35 U.S.C. 103(a) as being unpatentable of Flock in view of Lightle, and that it is Lightle that teaches the use of a pressurized sand delivery system to dispense sand, under pressure to a desired location.

Applicant then argues "The applicant...takes issues with the examiners finding in this case as it is believed Lightle does not show a smaller air source pipe fitted inside a large diameter sand outlet which creates a Venturi effect for pressurizing the sand".

However, the Examiner does not concur.

Lightle discloses "In operation, sand 14 from a source, such as a truck 13, is fed into one or more sand guns 21 or 22 through a funnel chamber 52. The hopper feeds the granular material into the rapidly spinning pocketed wheel 40 pockets 41 where it is broken up and spun and fed into the high pressure air stream from the entrance pipes 31 and 33 through the center of the pocketed wheel and out the exhaust pipe 25 where the air pushes the granular material through the flexible abrasion resistant polymer hose 16.

Hence, it is apparent that the pressurized air enters the mixing chamber (23) from a small diameter feed lines (31, 33) which obviously creates a "Venturi effect" within the mixing chamber as the air and sand mixture enters the manifold (34) that is clearly illustrated as having a larger diameter than the feed lines (31, 33).

See col. 3, Ins. 35-57.

Therefore, the argument is not persuasive and the rejection is upheld.

Applicant then argues "neither of the applications show an injector gun having a gun bleed off valve for releasing excess pressure from said gun or the use of a gun nozzle with a threaded end that may be fit into a drilled hole to create a fluid type connection".

However, the Examiner does not concur.

Flock explicitly recites "the stem may be simply a conduit for carry filling material under pressure...or it may comprise a cylinder...or tamping plunger". See col. 2, Ins. 87-109. Flock then discloses "When the material is of a very plastic or fluidic nature it may be necessary to utilize a flap check valve (34) or the like at the end of the tube (17)" or stem (9) when "for example it may be directly subjected to...compressed air to move gradually or with a hammering action...the present invention further contemplates the forcible injection of materials into the earth and between a structure and some reactance element...for the purpose of preventing settling as well as for raising a structure after it has settled". See col. 4, Ins. 88-103.

Therefore, the argument is not persuasive and the rejection is upheld.

Applicants' final argument "case law requires that the teaching of the references can be combined only if there is some suggestion or incentive in the prior art to do so...Hindsight is forbidden...In this case, it has been shown that Flock and Lightle both teach away from the use of compressed air for lifting and the placement of dried sand and both in fact show the use of wetted or plastic fluidic materials which is clearly taught in Flock".

However, the Examiner does not concur.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In this case, Flock disclose a plurality of embodiments that contemplate the use of a stem (9), which may be simply a conduit for carrying filling material under pressure and discharging it as shown at 12, beneath the sunken pavement , page 1, Ins. 87-109. Flock further discloses "The filling material will likewise vary for different soils and sub soils and with the size and character of the sink in the pavement...Plastic cement or concrete may be used as well as loose materials such as earth, clay, etc...In fact any substance, which can be forced into position and which can thereafter become substantially incompressible should be found satisfactory".

Further, Lightle teaches the use of a device for moving sand, under pressure to a desired location, and that the use of water, or wet sand is an obvious alternate embodiment. See col. 4. Therefore, the argument is not persuasive and the rejection is upheld.

Applicant then goes on to argue "no where is there any teaching of the 1930 Flock mud pump type apparatus that it would be of any value to combine this apparatus with a 1996 method for filling sand traps on golf courses or moving sand from one location to another for use in golf courses and sand traps in order to come up with the application as currently claimed".

However, in response to applicant's argument based upon the age of the references, contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).

The combination was not put forth to show the obviousness of using the 1930 Flock mud pump for filling golf courses, as argued.

Rather, the Flock reference, despite its age, explicitly discloses the use of pressurized dirt, clay, etc, to raise sunken sections of concrete slabs. Lightle, was combined with the teachings of Flock to show an obvious pressurized sand distribution system, that could be used to place sand, under pressure to a desired location, such as underneath sunken concrete slabs, as is reasonably suggested by Flock.

Therefore, the argument is not persuasive and the rejection is upheld.

Applicant further argues "Flock patent generally discloses materials that are in a fluidic state that dry and...shrink, thus causing slabs to resettle".

However, Flock's reference to 'fluidic materials' is not limited to the use of concrete, cement or wet sand. Rather, any granular material, such as dirt, clay, etc., is known to be in a "fluidic state" when it is pressurized and moved in an air stream. Air and water are known to behave in a "fluid like manner" when each is in motion. Therefore, the argument is not persuasive and the rejection is upheld.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sproules # 6,558,071 B1 discloses a pavement raising system utilizing a nozzle (68) having a threaded end for engaging the sides of a hole formed in the concrete slab.

4. This is a RCE of applicant's earlier Application No. 09/687,445. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

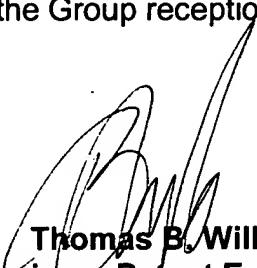
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Addie whose telephone number is (703) 305-0135. The examiner can normally be reached on Monday-Friday from 7:00 am to 2:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached on (703) 308-3870. The fax phone number for this Group is (703) 872-9326.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1113.



Thomas B. Will
Supervisory Patent Examiner
Group 3600

RWA
9/28/2004